

ON THE IMPROVEMENTS EFFECTED BY THE AUSTRALIAN CLIMATE,
SOIL, AND CULTURE ON THE MERINO SHEEP.

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The subject of Merino sheep and Wool, is probably so uninteresting to most of our members, that in drawing your attention this evening to the various developments and changes which have been effected by our Australian squatters, I shall confine myself chiefly to a comparison of the European Merino types of wool, with the various samples on the table before you, grown under Australian culture. We must not forget, that our squatters, in thus increasing the length, lustre, and other good qualities, have done so entirely with a desire to meet the requirements and tastes of the manufacturers and wearers, and thus secure the highest returns for their capital and labor. Our climate and soil have assisted them very materially in producing a longer and stouter fibre. In a few years, should the taste for wearing fabrics made from the old style of clothing wool, return, they will find that it will not be so easy a matter to work back to the short dense very fine clothing wool of former years.

In examining the samples before you, you will observe that our own colony formerly produced the very highest qualities of clothing wool, suitable for making the finest felts (for piano hammers, &c.), scarlet hunting cloths, superfine broad cloths, and other fabrics of the most delicate texture, fit for royal robes. You will also see the combing and lustrous samples, which have almost supplanted the former, and are better adapted for the highest qualities of alpacas, lustres, and the numerous descriptions of corded and fancy tweeds, so popular now with peer and peasant.

The Merino sheep, which produces these high-class wools was described as long ago as the first century, by Lucius Columella of Cadiz, one of the best authors on practical agriculture in that century. The original flocks appear to have been confined for

many years to Spain, whence they have been gradually distributed to most parts of Europe, North and South America and our own colonies. Here we have found the Merino a hardy animal, thriving alike on the high and luxuriant pasture lands on the western waters of New England and Monaro, 2,000 to 3,000 feet above the sea, or, on the arid plains of the western interior, where the food consists only of scanty herbage and shrubs.

I will first draw your attention to the Merino wools grown in Europe, as representative of the average wools of the imported Merino sheep, and then compare them with those grown in our colonies from those sheep, giving at the same time a short statement of the climate and soil in which our wools have been grown.

No. 1.—The highest class of German clothing wool in the grease, sent by the Emperor of Germany to our Agricultural Society.

No. 2.—The same wool scoured, estimated to be worth 6s. per lb. The loss in scouring about 78 to 80 per cent.

No. 3.—Fair class Silesian wool roughly washed, worth about 20d. per lb.

No. 4.—The same wool scoured by the manufacturer, ready for working; value 4s. 3d. per lb.

In the four small bottles you will observe samples of German and Silesian wool, which are a little longer than the first two. They are of fine quality, and represent the ordinary commercial Silesian wool as sold in London, and used in Europe for their finest fabrics. The Silesian Merino is the ancestor of many of our best flocks, and you will notice presently by the Mudjee samples in the larger bottles, how closely our best earlier wools resembled those from their Silesian progenitors. In the large bottle No. 1, is a sample of the late Hon. E. K. Cox's wool, in 1870. It is beautifully fine, and contains every good quality of its Silesian ancestry. Its elasticity and felting qualities can scarcely be surpassed. It was grown at Rawdon near Rylstone, 2,000 feet above the sea. Formation, basalt, porphyry, and carboniferous rocks, country moderately timbered, fair pasture. Mr. Cox won the Grand Prix in Paris in 1878, beating all nations. The box No. 2, contains a

similar wool (bottle broken) of the highest Silesian type, equal to any ever produced in the colonies. It was grown by the late Mr. C. C. Cox, in 1870, at Brombee near Mudgee. Elevation about 1,700 feet above the sea. Formation, devonian slate and limestone, country moderately timbered.

The large bottle No. 3. This is also a good type of the earlier wools for which New South Wales became so famous. It was grown in 1870 by Mr. J. B. Bettington, at Brindley Park, near Merriwa, about 1,200 feet above the sea. Formation, rich soil, from basaltic and carboniferous rocks, open country, lightly timbered, well grassed.

Bottle No. 4. As I shall be presently showing you modern Victorian wool of good length, I have brought you a sample of Mr. J. L. Currie's wool of 1870, a good type of the Australian Merino wool of those days, grown on Basaltic Plains, about 1,200 feet above the sea, open plains, with scarcely any timber, well-grassed. You will observe that even so far back, the Victorian wool had assumed a *distinct* combing type, *peculiarly its own*, and that colony, without doubt, now produces the very highest class of this long lustrous wool.

I will now draw your attention to our Merino Wools of the present day, to show how the wool from the same purely-bred Merino has, under the influence of climate, soil, and culture, attained a much greater length and improved considerably in lustre and colour, while it has retained most of its excellent qualities, extreme fineness of fibre alone excepted.

In box No. 5, is a sample of Mr. H. C. White's wool from his flock, at Havilah, near Mudgee, long considered one of the premier ones of our colony. Formerly it much resembled the fine Mudgee samples in the larger bottles, but has now become longer in staple and somewhat stouter in fibre, while it has retained its denseness, the quality above all others the most difficult to perpetuate here, and so necessary to introduce periodically into our arid western interior. Havilah is about 1500

feet above the sea. Formation, Devonian slate and limestone; country fairly grassed and moderately timbered. Just awarded a Gold Medal at the Calcutta Exhibition.

In box No. 6, is a sample of the well-known Collaroy Wool, not quite so fine in fibre as the Havilah, but the sheep grow heavy fleeces and give excellent results in money value per head. Collaroy is on eastern water on the south of the Liverpool Range, 1200 feet above the sea. Formation, chiefly basaltic, carboniferous rocks, with some rich pasture; lightly timbered.

In box No. 7, is Mr. F. R. White's wool, bred originally from the Havilah and Broombee flocks,—an excellent description of sound, soft wool, giving good results per sheep. Grown at Harben Vale, near Murrurundi, on eastern waters, about 1300 feet above the sea. Formation, basaltic and carboniferous rocks. Hilly country, good pasture, moderately timbered.

In box No. 8, is a very nice sample of true Merino Wool, grown by Mr. F. B. Sutor, at Bathurst, from Tasmanian stock. All the good qualities have been perpetuated most faithfully. Height, 2000 feet above the sea. Formation, granite and basalt. Grown in open paddocks and sheltered at night. Just awarded a Gold Medal at Calcutta.

We will now examine two samples from Riverina. The first grown by Messrs. H. and C. Douglass, of North Yanco, No. 9, on the edge of the timbered country, near Narrandera, on the Murrumbidgee. A very nice soft and silky exhibit. Grown about 600 feet above the sea. Formation, post-tertiary and alluvial deposits, just on the verge of the salt-bush plains. Awarded a Bronze Medal at Calcutta.

The other, No. 10, is wool grown by Mr. Falkiner, of Boonooke, near Deniliquin. These contrast strongly with the first samples of German, Silesian, and earlier Mudgee Wools. The length of the ram's wool is 5 to 6 inches. This is a good sample of what can be done by judicious culture and selection. Boonooke is only 300 feet above the sea. Formation, post-tertiary and alluvial deposits. Good salt-bush country, lightly timbered.

It was supposed that the Darling River country would not grow high class wool, but if you examine the almost perfect specimens of ewes' combing wool, grown by the Hon. T. Cumming, at his Arumpo Station, on the Lower Darling, you will be convinced that very excellent wool can be grown even there, under intelligent culture. It was for these ewes that Mr. Cumming recently purchased the Victorian ram, for which he gave 3150 guineas. You will find wool from this ram in the same box. It is $5\frac{1}{2}$ inches long, and shows in a remarkable degree what profitable results may be attained by skilful management. Arumpo is about 250 feet above the sea. Formation, post-tertiary deposits. Fairly grassed and lightly timbered.

I have brought a fleece of the modern Victorian combing wool to contrast with that from its German and Silesian ancestors. It was grown by Mr. Charles Ayrey, of Warranooke, who now possesses one of the finest flocks in Victoria. In the olden days this flock was bred freely from Silesian blood, but lately has only had the addition occasionally of a very choice Tasmanian or Victorian ram. Colour, length, strength, lustre, and softness are present in a high degree, and can scarcely be excelled. Mr. Ayrey's rams have sold up to 1000 guineas. Warranooke is about 500 feet above the sea. Formation, Silurian, basalt, and post-tertiary. Good pasture, moderately timbered.

You will find on the table two representative types of Tasmanian Wool—Messrs. Gibson and Sons' and Mr. Kermodes. Both are very pure specimens of Merino combing wool. There is also a fine sample of wool scoured by Mrs. Darchy, of Oxley, Lower Lachlan, which deservedly obtained a Gold Medal at Calcutta.

There are also samples from various parts of the colony, and a curiosity in the way of black and white transversely striped pure Merino Wool, from Mr. Edol's Burrawang Station, and by way of a shocking example, some wool from the coast districts of northern Queensland. The spear grass which you see has quite banished sheep from the coast districts of that colony.

I should add that our squatters, while they have been attending to the quality of the wool, have not neglected the carcass. The Merino sheep of most of our leading flocks is becoming a larger and a better developed animal, with a strong constitution and singularly free from disease.

I hope I have in some degree succeeded in showing how well our Australian colonies are adapted for the growth of the highest classes of the Merino sheep and wool. The whole of the country on our western watersheds is an *essentially pastoral one*, and eminently suitable for the progressive development and improvement of the Merino sheep, and we only require the fostering help of an intelligent Government to keep in the front rank of the wool-producing countries of the world.

NOTES AND EXHIBITS.

Mr. Norton exhibited a specimen of Tasmanite from the River Tamar in Tasmania, and explained that it was a species of shale formed in thin layers, and that numerous small flattened discs of some substance like amber, resembling spores of a lycopod, were scattered throughout the whole substance of the stone, in consequence of which it would burn with a bright flame without its substance being apparently reduced thereby. It was of no value as a fuel.

The President exhibited several fine specimens of the "*Paper Nautilus*," which had been brought from Lord Howe Island by Mr. H. T. Wilkinson, J.P. It is said that they are of rare occurrence there.

Mr. Whitelegge exhibited a number of transparent sections of fossil wood from the Oldham Coalfield, Lancashire, also some longitudinal sections of fossil wood from the Darling Downs, and transverse and longitudinal sections of *Lepidodendron*, *Stigmaria*, and *Calamites*.